REMARKS

All claims (1-30) now stand rejected under 35 USC 102(e), in view of US Patent 6,201,813 to Klausmeier, et al. Applicant respectfully holds that these rejections are improper, and presents supporting arguments below. These arguments apply specifically to Applicant's independent claims 1 and 18, which Applicant believes claim allowable subject matter. It follows that dependent claims 2-17 and 19-30 also claim allowable subject matter, as these depend, respectively, on independent claims 1 and 18.

Regarding independent claims 1 and 18: Klausmeier addresses a method for using asynchronous transfer mode (ATM) queues to segment and reassemble data frames such as IP frames, and in fact describes a node or a digital switch with specific internal means for managing ATM cells. In contrast, Applicant's invention deals with the transmission of IP data frames between different nodes, rather than within a single node, of a network that includes backbone and access links and nodes. In Applicant's invention, the network links interconnect nodes of a network, whereas in Klausmeier the links are between internal functional blocks within a single node of a network.

Applicant's invention is not directed toward ATM and AAL5. The Maximum Transmission Units (MTU) of Applicant's invention refer to the definition of MTUs in the IP network. In Klausmeier, IP packets are segmented and reassembled to be transported in ATM cells with an MTU of 48 bytes so as to fit into the ATM payload. However, IP MTUs are not changed.

In Klausmeier, IP packets are segmented so that they may be transported in ATM cells, whereas in Applicant's invention, IP packets are assembled into a superframe called an "assembled data frame." The assembled data frame, which is also an IP packet, has a longer MTU that is supported by the backbone links but not necessarily supported by the access links. For example, common MTU values in the context of Applicant's invention are 576 bytes for an access MTU and 1500 bytes for a backbone MTU, which clearly have nothing to do with the ATM-constrained 48-byte MTU of Klausmeier.

The AAL5 protocol described by Klausmeier allows the construction of longer containers to transport protocols such as IP. However, elements of data are then transmitted in ATM cells of 53 bytes, including cell header and payload, whereas Applicant's invention transports the assembled data frame as a single IP packet rather than as segmented elements. Further, Klausmeier uses the ATM protocol to transport imbedded packets, whereas Applicant's invention uses the IP protocol.

For example, according to Klausmeier, a 700-byte IP packet is segmented by AAL5 and transported by about 20 ATM cells. In contrast, an object of Applicant's invention is to avoid this segmentation, and instead to assemble at least two IP packets. So, in this example, Applicant's invention assembles two 700-byte IP packets into an assembled data frame of about 1500 bytes. At a point of ingress, Klausmeier segments, whereas Applicant's invention assembles; this is a clear and important difference between the two. In IP, segmentation at ingress and reassembly at egress are known methods for reducing the size of packets to fit an available MTU. Applicant's invention, however, addresses the inverse of this, as explained above: assembly at ingress and segmentation at egress.

For the foregoing reasons, Applicant believes that independent claims 1 and 18 are allowable subject matter, and that independent claims 2-17 and 19-30 are therefore also allowable. Consequently, Applicant respectfully ask Examiner to allow all claims.

Respectfully Submitted,

David R. Irvin

Reg. No. 42,682

Phone: 919-543-7810
EMAIL: dirvin@us.ibm.com